

U.S. Patent Application No. 10/571,081
Amendment After Final dated June 30, 2008
Reply to Final Office Action of April 1, 2008

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for searching a drug to a bioactive protein protease derived from SARS using a cell-free protein synthesis means with the use of a wheat embryo extract solution comprising at least steps 3) to 5) of the following steps:

- 1) synthesizing a gene comprising a gene encoding the bioactive protein protease derived from SARS, wherein the step is based on base sequence information of the bioactive protein gene of the protease derived from SARS,
- 2) synthesizing an mRNA from the gene synthesized in step 1),
- 3) synthesizing the bioactive protein protease derived from SARS using a cell-free protein synthesis system with the use of a wheat embryo extract solution, using the mRNA synthesized in step 2) as a translation template or the gene synthesized in step 1) as a transcription template,
- 4) determining the reactivity of a candidate drug to the bioactive protein protease derived from SARS by adding the candidate drug to the cell-free protein synthesis system with the use of a wheat embryo extract solution, and
- 5) screening a drug to the bioactive protein protease derived from SARS by using the reactivity as an indicator,

~~wherein the bioactive protein is any one of the following:~~

- 1) an RNA polymerase, 2) a DNA polymerase, 3) a helicase, 4) a coat protein, or 5) a capsid protein; and

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wherein the wheat embryo extract solution is a cell-free protein synthesis means with a wheat embryo extract from which an endosperm and a low molecular synthesis inhibitor are substantially removed.

2. (Currently amended) The method for searching a drug according to the claim 1, wherein the indicator of reactivity to the ~~bioactive protein protease derived from SARS~~ is based on the reactivity to ~~bioactive protein's~~ autodigestion of the protease derived from SARS.

3. (Currently amended) The method for searching a drug according to the claim 1, wherein the indicator of reactivity to the ~~bioactive protein protease derived from SARS~~ is based on the reactivity to the ~~bioactive protein's~~ substrate recognition of the protease derived from SARS.

4. (Currently amended) The method for searching a drug according to the claim 1, wherein the indicator of reactivity to the ~~bioactive protein protease derived from SARS~~ is based on the ~~bioactive protein's~~ protease derived from SARS' autodigestion in a folding process, inhibition or termination of folding, or induction of misfolding.

5. (Canceled)

6. (Previously presented) The method for searching a drug according to claim 1, wherein the steps 3) to 5) or 2) to 5) are conducted in a single reaction system.

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7-12. (Canceled).

13. (Withdrawn) A drug provided by the method for searching a drug according to claim 1.

14. (Withdrawn) A reagent kit used in the method for searching a drug according to claim 1.

15. (Withdrawn) An oligonucleotide primer to amplify a SARS 3CL^{pro} protein-encoding DNA.

16. (Withdrawn) The oligonucleotide primer according to the claim 15, comprising any one of nucleotides represented by SEQ.ID.Nos: 6-21.

17. (Withdrawn) A SARS 3CL^{pro} protein-encoding DNA synthesized by using the oligonucleotide primer according to the claim 15.

18. (Withdrawn) The SARS 3CL^{pro} protein-encoding DNA according to the claim 17, represented by SEQ.ID.No:1.

19. (Withdrawn) A SARS 3CL^{pro} protein synthesized using a cell-free system with the use of a wheat embryo extract solution, using the DNA according to the claim 17.

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20. (Withdrawn) The SARS 3CL^{pro} protein according to the claim 19, sustaining a protease activity.